

Lesson 2

Unit Pricing



Terry's background as a Red Seal chef helps him provide his customers with appealing, healthy food.

MATH ON THE JOB

Terry Robichaud is the department manager of the deli at Pete's Frootique grocery store in Halifax, Nova Scotia. Terry is Acadian. He grew up in Halifax, where he attended St. Patrick's High School.

"Some of my duties and responsibilities are to lead and motivate staff and provide vision and planning for business growth," he says. Terry also controls departmental finances such as wages and sales targets. "I use math to calculate prices for retail sales. From this I ensure our company achieves the appropriate profit margin on each item sold," says Terry.

Terry is considering buying a new type of samosa to sell in the deli. He will buy them frozen from a wholesaler, to bake and sell in the deli. One wholesaler sells a box of 50 samosas for \$28.00. Another wholesaler sells a box of 75 samosas for \$41.25. What is the unit price at each wholesaler? What is the unit price difference between the two companies? What factors apart from price might Terry want to consider?

$$\frac{41.25}{75} = \$0.55 \text{ / Samosa}$$

$$\frac{28}{50} = \$0.56 \text{ / Samosa}$$

Products are packaged and sold in various sizes, such as a 1-litre, 2-litre, or 4-litre jug of milk. How do you determine the least expensive choice? Different brands may package their products in different sizes of packages. Brand A may sell a 250 g package of meat, while Brand B may sell a 375 g package. Which is the better buy? Finding the **unit price** will allow you to compare prices, and help you determine the best buy.

Unit Price: the cost of one unit; a rate expressed as a fraction in which the denominator is 1

Unit Rate: the rate or cost for one item or unit

Consumer goods, such as pens or rolls of toilet paper, are often bundled together and sold in bulk. To compare the price when the quantity in the package is not the same, it is often useful to look at the unit cost of one item. If you have a business, you may buy items in a bulk purchase that you later want to charge to your customers one item at a time. To do this, you also need to calculate the cost of one item.

A unit price is the cost of one unit. It is sometimes referred to as a **unit rate**. To calculate a unit price, you can use a proportion where the second rate has a denominator of 1. For example, if you buy a package of 4 rolls of Eco-Friendly toilet paper for \$2.68, you can calculate the cost of 1 roll by using this proportion:

$$\frac{\$2.68}{4 \text{ rolls}} = \frac{x}{1 \text{ roll}}$$

To determine the product or brand that is the best value, or the size of purchase that is the best value, shoppers often compare the unit cost of different brands of the same product or different sizes of the same product.

Comparing unit prices can save you money at home and in the workplace. Unit price is not the only factor to consider, however. You may prefer the quality of one product over another. You may also find that there are more items in a large package than you can use. In this case, it may be a better choice to spend more on a per unit basis, and buy only what you need.

Example 1

Rosa buys supplies for the town hall in Montague, Prince Edward Island, where she works as a clerk. She wants to buy pens. The supplier sells a box of 12 pens for \$6.25. Calculate the unit price of 1 pen.

Example 2

Claire picks fresh strawberries at a U-pick farm in Deep Bight, Newfoundland. If she fills a pint basket (0.5506 litres), it will cost her \$1.50. If she fills a 4-litre ice cream pail, it will cost \$9.00. Which size of container will give her a better buy?

ACTIVITY 1.3 WHICH PRICE IS RIGHT?

You and a partner own a janitorial service. Your janitorial service buys cleaning products for the office buildings that you clean. Before making your purchases, you research prices from local stores or online stores to calculate and compare the unit price of each item. You could record your research on a table similar to the following sample. For each item shown in the table, compare the cost per unit of two different package sizes. Record which size has the lower cost per unit.

COMPARING DIFFERENT SIZES

<i>Item</i>	<i>Smaller size</i>	<i>Price</i>	<i>Unit price</i>	<i>Larger size</i>	<i>Price</i>	<i>Unit price</i>
Light bulbs	3	\$2.49		6	\$4.49	
Paper towels	3	\$3.69		6	\$6.49	
Garbage bags	20	\$8.79		30	\$9.99	
Sponges	5	\$7.95		8	\$12.99	

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Discuss the following questions with your partner.

1. For each item, which size of package is the best buy for your janitorial business? Why?
2. Why might a package of 20 garbage bags have a lower cost per unit than a package of 30 in the same brand? Which is the better buy?